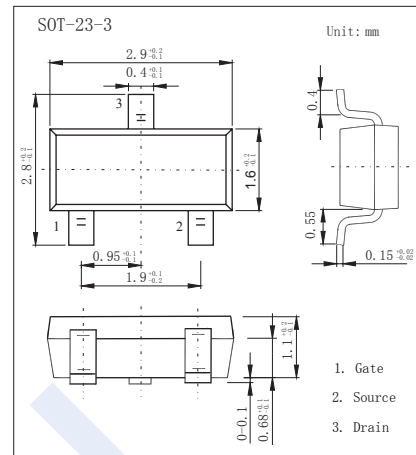
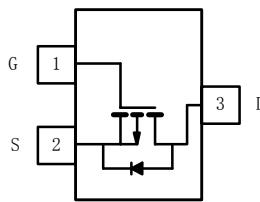


## P-Channel Enhancement MOSFET

### SI2319DS (KI2319DS)

#### ■ Features

- $V_{DS} (V) = -40V$
- $I_D = -3.0A (V_{GS} = -10V)$
- $R_{DS(ON)} < 82m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 130m\Omega (V_{GS} = -4.5V)$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	$V_{DS}$	-40		V
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current ( $T_J = 150^\circ C$ ) *1	$I_D$	$T_a = 25^\circ C$	-3.0	A
		$T_a = 70^\circ C$	-2.4	
Pulsed Drain Current	$I_{DM}$	-12		W
Power Dissipation *1	$P_D$	$T_a = 25^\circ C$	1.25	
		$T_a = 70^\circ C$	0.8	
Thermal Resistance.Junction- to-Ambient *1	$R_{thJA}$	100		$^\circ C/W$
Thermal Resistance.Junction- to-Ambient *2		166		
Thermal Resistance.Junction- to-Foot		$R_{thJF}$	50	
Junction Temperature	$T_J$	150		$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150		

\*1 Surface Mounted on FR4 Board,  $t \leq 5$  sec.

\*2 Surface Mounted on FR4 Board.

## P-Channel Enhancement MOSFET

### SI2319DS (KI2319DS)

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>bss</sub>	I <sub>D</sub> =-250 μA, V <sub>GS</sub> =0V	-40			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-40V, V <sub>GS</sub> =0V			-1	μA
		V <sub>DS</sub> =-40V, V <sub>GS</sub> =0V, T <sub>J</sub> =55°C			-10	
Gate-Body leakage current	I <sub>gss</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =-250 μA	-1		-3	V
Static Drain-Source On-Resistance *1	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-3.0A		65	82	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-2.4A		100	130	
On state drain current *1	I <sub>D(ON)</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-5V	-6			A
Forward Transconductance *1	g <sub>FS</sub>	V <sub>DS</sub> =-5V, I <sub>D</sub> =-3.0A		7		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-20V, f=1MHz		470		pF
Output Capacitance	C <sub>oss</sub>			85		
Reverse Transfer Capacitance	C <sub>rss</sub>			65		
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-20V, I <sub>D</sub> =-3A		11.3	17	nC
Gate Source Charge	Q <sub>gs</sub>			1.7		
Gate Drain Charge	Q <sub>gd</sub>			3.3		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-20V, R <sub>L</sub> =20 Ω, R <sub>GEN</sub> =6 Ω  I <sub>D</sub> =-1.0A		7	15	ns
Turn-On Rise Time	t <sub>r</sub>			15	25	
Turn-Off DelayTime	t <sub>d(off)</sub>			25	40	
Turn-Off Fall Time	t <sub>f</sub>			25	40	
Maximum Body-Diode Continuous Current	I <sub>S</sub>				-1.25	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.25 A, V <sub>GS</sub> =0V		-0.8	-1.2	V

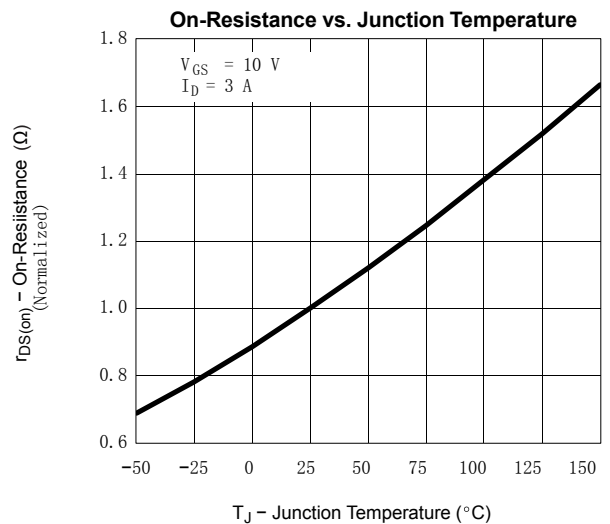
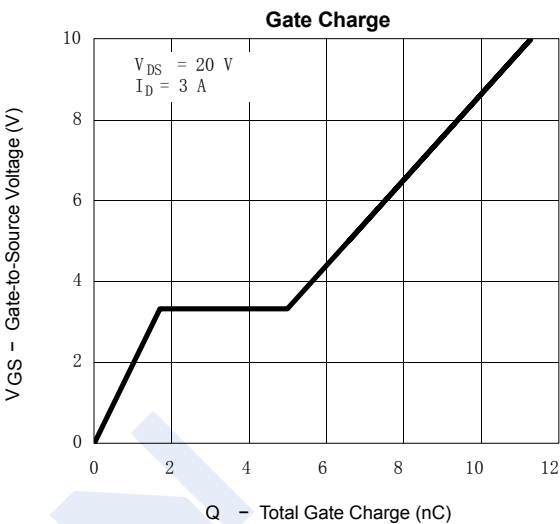
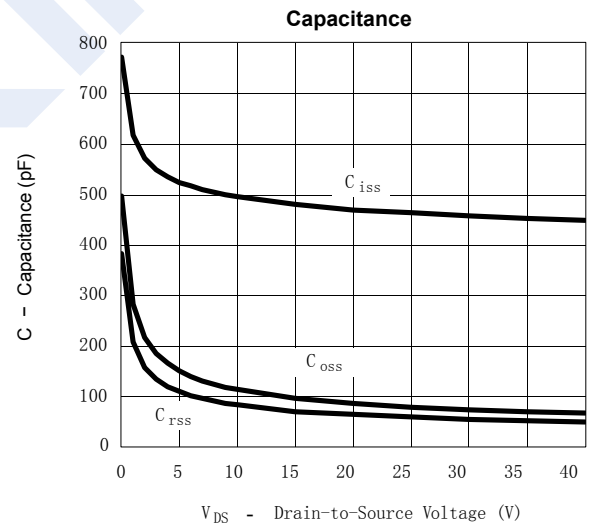
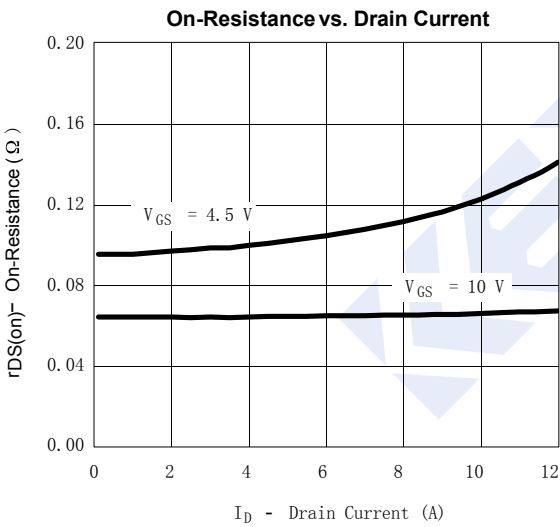
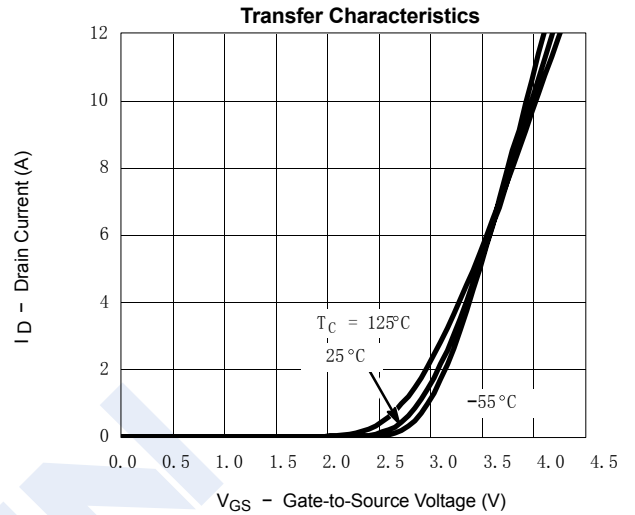
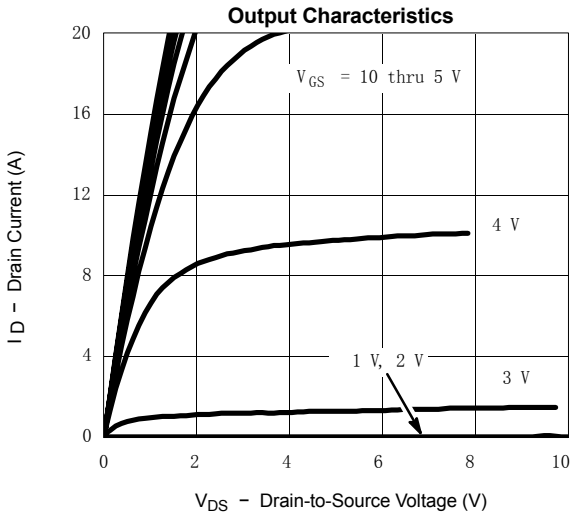
\*1Pulse test: PW ≤ 300us duty cycle ≤ 2%.

#### ■ Marking

Marking	C9*
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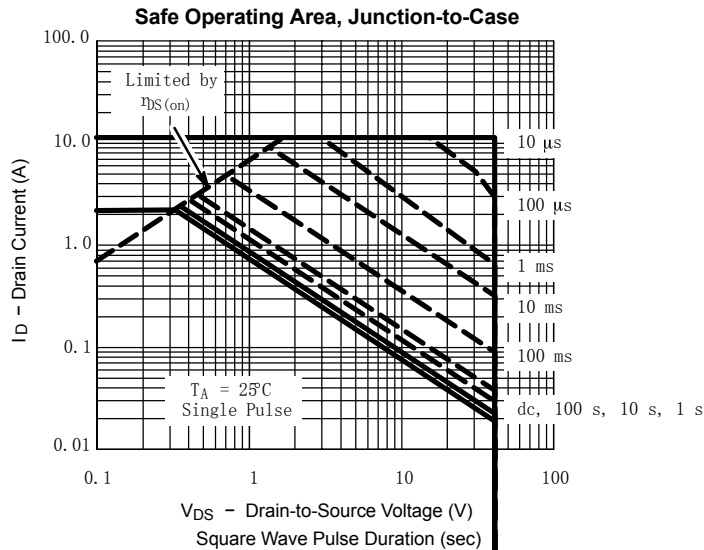
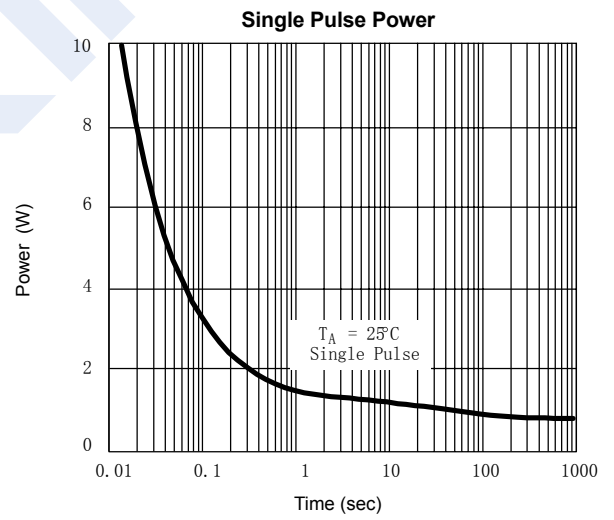
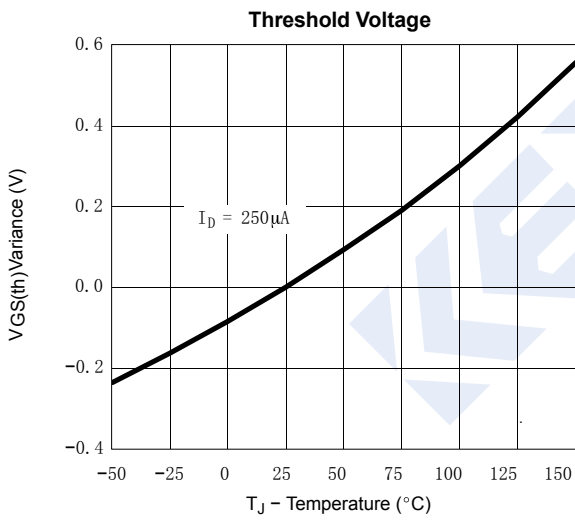
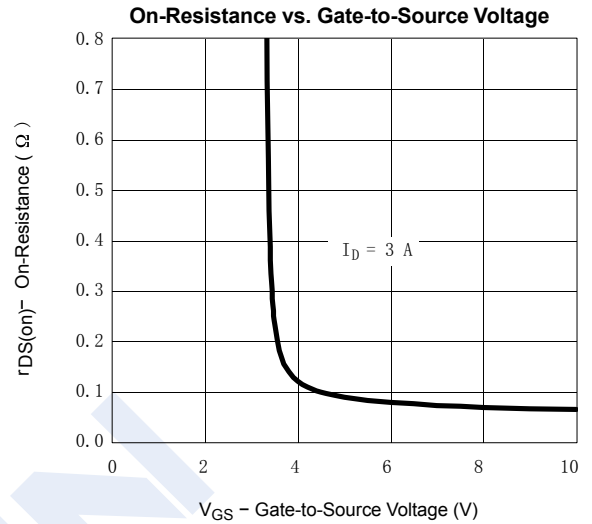
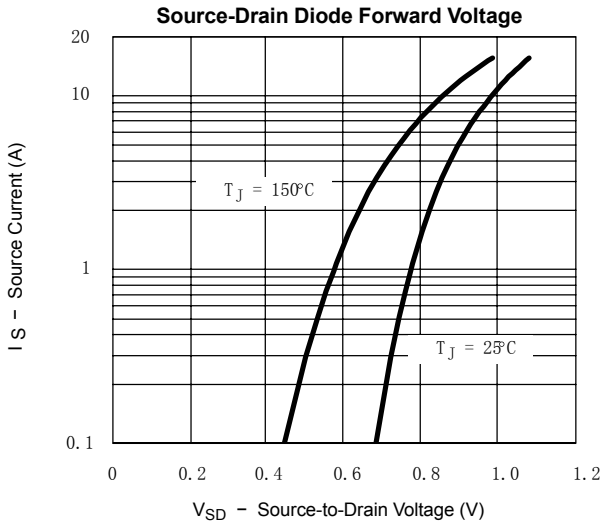
## P-Channel Enhancement MOSFET SI2319DS (KI2319DS)

■ Typical Characteristics



## P-Channel Enhancement MOSFET SI2319DS (KI2319DS)

■ Typical Characteristics



## P-Channel Enhancement MOSFET

### SI2319DS (KI2319DS)

#### ■ Typical Characteristics

